

## **400.25: Solar Collection Systems**

### **400.25.1: Authority and Purpose:**

The purpose of this ordinance is to accommodate solar energy collection systems and distributed generation resources in appropriate locations, while protecting the public's health, safety and welfare, preserving natural resources and managing aesthetic impact.

### **400.25.2: Definitions:**

**400.25.2.1: Solar Land Coverage** – is defined exclusively for the purposes of calculating the footprint of the land area occupied by the components of a solar array. The Solar Land Coverage is the land area that encompasses all components of the solar collection system including but not limited to mounting equipment, panels and ancillary components of the system. This definition does not include access roads or fencing and is not to be interpreted as a measurement of impervious surface as it may be defined in this ordinance.

**400.25.2.2: Solar Collection System** - Includes all equipment required to harvest solar energy. The Solar Collection System includes storage devices, power conditioning equipment, transfer equipment, and parts related to the functioning of those items. Solar Collection Systems include only equipment up to (but not including) the stage that connection is made to the utility grid or site service point.

**400.25.2.3: Roof Mount** – A solar collection system that is structurally mounted to the roof of a building or other permitted structure, including limited accessory equipment associated with system which may be ground mounted. For purposes of calculating solar land coverage under the solar definitions in this section, roof mounted portions shall not be included if the system is made up of both roof and ground mounted systems.

**400.25.2.4: Ground Mount** – A solar collection system and associated mounting hardware that is affixed to or placed upon the ground, including but not limited to fixed, passive or active tracking racking systems. Ground-mounted residential solar systems are defined as structures that must meet all applicable permitting and zoning requirements.

### **400.25.3: Residential Solar**

#### **400.25.3.1: Use Definition:**

**Residential Solar:** Any ground mounted or roof mounted solar collection system designed for on-site residential use, and consisting of one or more free-standing, ground or roof mounted, solar arrays or modules, or solar related equipment.

#### **400.25.3.2: Specific Residential Solar System Requirements and Exemptions:**

Residential Solar collection systems of any size are permitted in all districts by building permit.

**400.25.3.3: Screening:** Ground-mounted residential solar systems should be screened from abutting properties or roads or shoreland by fencing or a combination of evergreen and deciduous plantings.

**400.25.3.4: Lot Coverage:** Ground-mounted residential solar collection systems shall be considered as part of the maximum allowed lot coverage.

**400.25.3.5: Impervious Surface:** Ground-mounted residential solar systems shall not be considered impervious surface. However proper storm water control systems must be put in place to ensure that storm water runoff from property, post installation, does not exceed that prior to installation.

**400.25.3.6: System Height:** A ground-mounted residential solar system must not be over 16 feet in height at any point.

**400.25.3.7: Building Height:** Roof mounted residential solar collection systems shall include integrated solar panels as the surface layer of the roof structure with no additional apparent change in relief or projection or separate flush-mounted solar panels attached to the roof surface. Separate flush-mounted

solar panels installed on a structure with a sloped roof surface shall not project vertically above the peak of the roof to which it is attached, or project vertically more than eight (8) feet above a flat roof.

**400.25.3.8: Placement:** Ground-mounted residential solar systems should be located in the rear yard or side yard between the primary structure and property line, allowing for required set back from the property lines. Ground mounted systems cannot be placed within the Woodland Buffer (150 feet from reference line) of shoreland property.

#### **400.25.4: Non-Residential Solar**

##### **400.25.4.1: Use Definition**

Commercial Solar: Any ground mounted or roof mounted solar collection system designed for other than on-site, individual residential use and consisting of one or more free standing, ground or roof mounted solar arrays or modules, or solar related equipment.

##### **400.25.4.2: Roof Mounted Solar Collection Systems**

- a) Roof mounted solar collection systems which comply with the residential solar building height limitations of section 400.25.3.7 are permitted in all districts by building permit.
- b) Roof mounted solar collection systems which exceed the residential solar building height limitations of section 400.25.3.7, or which exceed other building height limitations require site plan review.

##### **400.25.4.3: Ground Mounted Solar Collection Systems**

Ground Mounted Solar Collection Systems are permitted through Site Plan Review with the following restrictions.

- a) General Residential District and the Village Area of the Commercial District– Systems that are 1 acre or less of solar land coverage.
- b) Rural Residential District – Systems that are 25 acres or less of solar land coverage.
- c) Commercial District excluding Village Area – Systems that are 50 acres or less of solar land coverage.
- d) Municipal Systems – All solar collection systems for municipal use are exempt from land use regulations pursuant to NH RSA 674:54.
- e) Land Clearing
  - Land clearing shall be limited to what is necessary for the installation and operation of the system and to insure sufficient all-season access to the solar resource given the topography of the land.
  - Following construction, cleared land areas must be restored with native species that are consistent with the use of the site as a solar collection system (such as slow growth or low ground cover).
  - Agricultural related Solar should minimize impacts to farmland activities and Prime Farmland Soils as defined and delineated by soil survey.
- f) Setbacks
  - Solar collection systems shall be considered structures and shall comply with a 35 ft. setback from lot lines for the entire system – including the panels. Tracking systems shall have the setback measured from the point and time where the array is closest to the lot line. No portion of a system may cross into the setback.
- g) Screening

- Solar collection systems shall be visually screened to the extent possible through the preservation of existing vegetation or through a landscaped buffer in accordance with the following:
  - All solar systems shall have a reasonable visual buffer from public ways and neighboring commercial/residential uses based on the viewsheds, contours of the land and abutting land uses.
  - Required screening shall be maintained so long as the Solar Collection system remains in place.
- h) Fencing
  - Perimeter fencing shall be installed in compliance with the National Electric Code.
  - Additional perimeter fencing may be required for solar collection projects the Planning board determines to be a safety hazard.
- i) Stormwater
  - Ground mounted systems that are required to secure a New Hampshire Department of Environmental Services Alteration of Terrain (AoT) Permit in accordance with NH RSA 485:17 shall secure such permit accordingly. The final Permit issued by NH DES shall be incorporated by reference into the final Town approval and shall be enforceable by the Town in accordance with this zoning ordinance.
  - No further local review of stormwater and erosion control shall be required where a project is required to secure the NH DES AoT Permit.
- j) Lighting
  - On site lighting shall be minimal and limited to access and safety requirements only and shall comply with requirements of Section 550 of the Holderness Zoning Ordinance.
- k) Noise
  - Noise levels at the property line shall not exceed 5 dB above ambient level.

#### **400.25.4.4: General Requirements: Commercial Solar**

- a) The development in its proposed location will comply with all applicable requirements of the Site Plan Regulations not otherwise covered in this section.
- b) Specific requirements for a non-residential solar collection system shall pre-empt any similar requirement in the Site Plan Review Regulations.
- c) In granting a permit pursuant to this section, the Planning Board may impose any reasonable conditions or restrictions deemed necessary to carry out the intended purpose of this ordinance.
- d) The use will not materially endanger public health or safety.
- e) All systems not connected to the grid shall comply with all applicable national electric Codes and be certified by a licensed electrical professional.
- f) Grid-tied systems shall file a copy of a final approved interconnection agreement with the municipality prior to operation of the system.
- g) **Decommissioning:** If the Solar Collection system is not used for a period of six consecutive months without written consent of the municipality (such as for reasons beyond the control of the owner/operator), it must be disassembled unless a specific and time-bound extension is provided by the Select Board. Decommissioning a Solar Collection system shall include the removal of all above-grade *structures*. The Solar Collection system shall be maintained in good condition and repair at all times. Any *structure* that is or becomes in disrepair, such that it does not meet its intended usage in the opinion of the Select Board, must be repaired within 45 days. If the Solar Collection system is not removed after one year of not being in use, a Notice of Abandonment will be issued by the Select Board. If the owner fails to physically remove the solar energy system after the Notice of Abandonment, the Select Board shall have the Solar Collection removed at the property owner's expense and any associated legal fees charged to the owner.

#### **400.25.4.5: Required Exhibits and Data**

Application for site plan or building permit for a Commercial Solar installation shall include the following:

- a) Emergency Response Plan
  - Access to the site for emergency response shall be provided and detailed on the plan.
  - A narrative or manual shall be provided for the Fire Department detailing response guidance and disconnection locations necessary for fire response.
  - Additional industry guidance documents that provide information about safety procedures for specific equipment on site shall be provided as needed to ensure adequate public safety.
  - Contact information for the solar collection system owner/operator shall be posted on site at the access way and provided and updated to the municipality.
- b) Glare
  - A statement detailing potential glare onto abutting structures and roadways estimating the interaction of sun to panel tilt angle and azimuth, time of year and visibility locations. Based on that information the Planning Board may require mitigation.
- c) Noise
  - Estimates of any equipment noise on the site based on equipment specification materials (such as inverters).
- d) Additional exhibits for Ground Mounted Systems:
  - A detailed site plan showing the solar land coverage area as well as all structures and equipment to be installed on site including utility connection point(s) and equipment.
  - Erosion control measures shall be detailed as required.
  - A detailed pre-construction and post-construction plan identifying existing vegetation and areas to be cleared with specific identification of locations of buffer areas adjacent to neighboring uses and public ways. The plan shall indicate the location, height and spacing of existing vegetation to be preserved and areas where new planting will be required.
  - Systems that disturb more than 10 acres of previously undisturbed land shall provide a natural resource inventory that details site conditions and habitat and mitigation efforts to reduce impacts to important species and habitat.
  - Where a ground mounted system does not require a NH AoT Permit, a stormwater management plan shall be provided in accordance with Site Plan Review requirements.